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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,098	06/20/2005	Agostino Parisi	16111US	6447

23676 7590 02/22/2006

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EXAMINER
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KHATRI, PRANAV V

ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/540,098

Applicant(s)

PARISI ET AL.

Examiner

Pranav V. Khatri

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 20 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/20/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 4-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Harper et al. (US Patent No. 4,102,562).

Regarding claims 20 and 1, Harper et al. discloses wherein a retroreflective printed (see figure 2) material comprising:

- a) a microspheres layer (11);
  - b) a priming layer (Col 3 lines 54-60) on the microsphere layer;
  - c) a printed design layer (16) on the primer layer;
  - d) a binder layer (14) on the printed design layer;
  - e) a base fabric (13) on the binder layer; and
  - f) a reflecting layer (dielectric mirror layer shown with heavy line, Col 3 lines 41-43);
- where the reflecting layer is either between the microsphere layer and the priming layer (the reflecting layer is interpreted to be between the microsphere layer and priming layer because the reference suggests the layer coats the exposed surfaces of the microspheres), or is between the printed design layer and the binder layer.

The process of manufacturing a retroreflective printed material and the steps of providing, applying and transferring are inherently met by the disclosure of the prior art.

Regarding claim 2, Harper et al. discloses where the microspheres are transparent glass microspheres (11 are glass microspheres, Col 3 line 34).

Regarding claim 4, Harper et al. discloses where the temporary support sheet (12) comprises a coating film (14) and a backing sheet (13).

Regarding claim 5, Harper et al. discloses where the coating film is selected from group consisting of a polymeric coating film, polyethylene (Col 3 line 39, 14 is a low density polyethylene), polypropylene, a low-density polyethylene thermo-adhesive film and an acrylic auto-adhesive film.

Regarding claim 6, Harper et al. discloses where the backing sheet is selected from the group consisting of Kraft paper (the backing sheet consists of Kraft paper, Col 3 line 37) and polyester film (Col 4 lines 45-47).

Regarding claim 7, Harper et al. discloses where providing a composite comprises placing the microspheres on the temporary support sheet by a process selected from the group consisting of printing (abstract and Col 2 lines 1-3), cascading (Col 3 lines 33-34), transferring (abstract and Col 2 lines 58-65, printing is a form of transferring) and screening (silk-screen printing, Col 4 lines 19-22).

Regarding claim 8, Harper et al. discloses where the reflecting layer is a dielectric mirror layer (dielectric mirror layer shown with heavy line, Col 3 lines 41-43)

applied on the microsphere (11) surface of the composite, and where the priming layer is applied on the dielectric mirror layer (Col 3 lines 54-60).

Regarding claim 9, Harper et al. discloses where the reflecting layer is a light reflecting material layer applied on the printed design layer (dielectric mirror layer shown with heavy line on the layer in between design layer 16 and microspheres 11), and where the binder layer (13) is applied on the light reflecting material layer (as seen in figure 2, the binder layer 13 is on the reflecting material).

Regarding claim 10, Harper et al. discloses where the light reflecting material layer is a vapor coating of a metal (Col 3 lines 43-53) (Col 8 lines 1-3) or thin reflective aluminum film layer applied by vacuum deposition.

Regarding claim 11, Harper et al. discloses where the priming layer is selected from the group consisting of a thin layer of transparent thermo-adhesive bicomponent polyurethane resin and a resin of a water polyether polyurethane dispersion (Col 3 line 60 chart).

Regarding claim 12, Harper et al. discloses where the printed design layer (16) from a transfer medium (Col 4 lines 20-44) with the printed design comprises a plurality of colors (16 is a multi-colored transfer layer).

Regarding claim 13, Harper et al. discloses where the transfer medium with the printed design comprises a design with sublimite pigments (Col 4 lines 20-44 and Col 5 lines 67- Col 6 line 5).

Regarding claim 14, Harper et al. discloses where transferring a printed design comprises thermo-transferring at a temperature between 180C and 220C (Col 4 lines 45-51, at 175C –200C).

Regarding claim 15, Harper et al. discloses where the transfer medium with the printed design comprises a design printed on a polymer film (Col 4 lines 20-44).

Regarding claim 16, Harper et al. discloses where transferring a printed design comprises thermo-transferring at a temperature between 100C and 120C (at 120C, Col 4 line 39).

Regarding claim 17, Harper et al. discloses where the binder layer is selected from the group consisting of a bicomponent polyurethane resin and a thin layer of a hot-melt adhesive (14 is heat-softenable layer).

Regarding claim 18, Harper et al. discloses a retroreflective printed material made according to claim 1 (see figure 2).

Regarding claim 19, Harper et al. discloses an article of clothing, sportswear or footwear comprising the retroreflective printed material of claim 18 (see background Col 1 lines 1-13).

Regarding claim 21, Harper et al. discloses where the microspheres are transparent glass microspheres (11 are glass microspheres, Col 3 line 34).

Regarding claim 22, Harper et al. discloses where the reflecting layer is a dielectric mirror layer (Col 3 lines 41-43).

Regarding claim 23, Harper et al. discloses where the reflecting layer is a

vapor coating of a metal (Col 3 lines 43-53) or thin reflective aluminum film layer (Col 8 lines 1-3).

Regarding claim 24, Harper et al. discloses where the priming layer is selected from the group consisting of a thin layer of transparent thermo-adhesive bicomponent polyurethane resin and a resin of a water polyether polyurethane dispersion (Col 3 line 60 chart).

Regarding claim 25, Harper et al. discloses where the printed design layer (16) comprises a plurality of colors (16 is a multi-colored transfer layer).

Regarding claim 26, Harper et al. discloses where the binder layer is selected from the group consisting of a bicomponent polyurethane resin and a thin layer of a hot-melt adhesive (14 is heat-softenable layer).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harper et al. (US Patent No. 4,102,562).

Regarding claim 3, Harper et al. discloses where the microspheres have a diameter (Col 3 lines 35-36, 70 to 100 micrometers). Harper et al. lacks the teaching where the microspheres are partially embedded in the temporary support (12) sheet to a

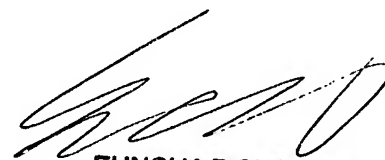
depth ranging between 40% and 50% of the microsphere diameter (the reference teaches it to be at 30%, Col 3 lines 39-40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have it range at 40%-50%, since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pranav V. Khatri whose telephone number is 571-272-8311. The examiner can normally be reached on M-F, 8:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Pranav Khatri  
Examiner  
02/21/2006



**EUNCHA P. CHERRY**  
PRIMARY EXAMINER